

REMARKS

The specification has been amended to corrected some typographical and grammatical errors. Claims 1-4, 6 and 8-17 have been amended. Claims 1-4, 6 and 8-17 remain for further consideration. No new matter has been added.

The objections and rejections shall be taken up in the order presented in the Official Action.

1-4. Claims 1-4, 6, 8-14 and 17 currently stand rejected for allegedly being indefinite.

Claims 1-4, 6, 8-14 and 17 have been amended.

5. Claim 2 currently stands objected to for an informality.

Claim 2 has been amended.

6. Claims 1-4, 6, 8, 10 and 12-17 currently stand rejected for allegedly being anticipated by U.S. Patent 6,543,569 to Shimizu (hereinafter "Shimizu").

Claim 1

Amended claim 1 recites a gear mechanism that includes:

"a rotatable first gear having a plurality of teeth; and
a rotatable second gear having a plurality of teeth;

where a profile of a surface face of each of the plurality of teeth of the first and second gears includes both a concave region and a convex region that collectively span a height of each of the plurality of teeth of the first and second gears; and

where when the first and second gears rotate with respect to each other a portion of the concave and convex regions of one of the first and second gears mesh with a portion of the convex and concave regions, respectively, of the other one of the first and second gears during the rotation of the first and second gears such that linear contact occurs between the surface faces of the first and second

gears, and where the linear contact occurs over the height of each of the plurality of teeth of the first and second gears during rotation of the first and second gears.”
(cl. 1, emphasis added).

Upon a fair and proper reading, Shimizu fails to anticipate amended claim 1. Specifically, Shimizu in FIG. 8D illustrates that the **full surface profiles** of each of the pinion 133 and the rack 134 are in contact with one another, which is true because of the helical nature of these gears 133, 134. (See col. 12, lines 39-48 and FIGs. 8A-8B). As such, linear contact (as recited in amended claim 1) cannot occur between these full surface profiles of the pinion 133 and the rack 134. Instead, arc contact occurs between these surface profiles. This in contrast to the emphasized language in amended claim 1 above where a **portion** of the surface profile regions of the first and second gears mesh with each other. This is clearly illustrated in FIGs. 5a and 5b of the present application as filed. It follows that because only a portion of the surface profile regions of the first and second gears mesh with each other, linear contact results from this type of contact. Thus, Shimizu is incapable of anticipating amended claim 1.

As a result, it is respectfully submitted that the anticipation rejection of amended claim 1 is moot and should be removed, and that amended claim 1 is in condition for allowance and should be passed to issuance.

Claim 15

Since claim 15 currently stands rejected for the same reasons as claim 1, and since claim 15 has been amended similarly to amended claim 1, the arguments above with respect to the patentability of amended claim 1 apply to the patentability of amended claim 15.

As a result, it is respectfully submitted that the anticipation rejection of amended claim 15 is moot and should be removed, and that amended claim 15 is in condition for allowance and should be passed to issuance.

Claim 17

Since claim 17 currently stands rejected for the same reasons as claims 1 and 15, and since claim 17 has been amended similarly to amended claims 1 and 15, the arguments above with respect to the patentability of amended claims 1 and 15 apply to the patentability of amended claim 17.

As a result, it is respectfully submitted that the anticipation rejection of amended claim 17 is moot and should be removed, and that amended claim 17 is in condition for allowance and should be passed to issuance.

7. Claim 9 currently stands rejected for allegedly being obvious in view of the combined subject matter disclosed in Shimizu and U.S. Patent 2,760,381 to Pickles (hereinafter "Pickles").

It is respectfully submitted that this rejection is now moot since claim 1 is patentable for at least the reasons set forth above.

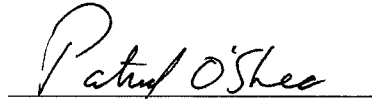
8. Claim 11 currently stands rejected for allegedly being obvious in view of the combined subject matter disclosed in Shimizu, Pickles and U.S. Patent 2,279,414 to Scott.

It is respectfully submitted that this rejection is now moot since claim 1 is patentable for at least the reasons set forth above.

For all the foregoing reasons, reconsideration and allowance of claims 1-4, 6 and 8-17 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,

A handwritten signature in cursive script, reading "Patrick O'Shea", is written over a horizontal line.

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